



06-19-01

0300 43  
Box Sec.

EXPRESS MAIL CERTIFICATE

Date 6/18/01 Label No. 62706743014Us

I hereby certify that, on the date indicated above, this paper or fee was deposited with the U.S. Postal Service & that it was addressed for delivery to the Assistant Commissioner for Patents, Washington, DC 20231 by "Express Mail Post Office to Addressee" service.

PLEASE CHARGE ANY DEFICIENCY UP TO \$300.00 OR CREDIT ANY EXCESS IN THE FEES DUE WITH THIS DOCUMENT TO OUR DEPOSIT ACCOUNT NO. 04-0100

Name (Print)

Signature

Customer No.:



07278

PATENT TRADEMARK OFFICE

Docket No: 3380/11127-US4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Lawrence PAPSIDERO; Lyn DYSTER; Jana FRUSTACI

Serial No.: 09/834,794

Art Unit: 1642

Confirmation No.: 1046

Filed: April 13, 2001

Examiner: TBA

For: DETECTION AND TREATMENT OF BREAST DISEASE

SUBMISSION OF SUBSTITUTE SEQUENCE LISTING AND  
STATEMENT PURSUANT TO 37 C.F.R. §1.821

Hon. Commissioner of  
Patents and Trademarks  
Washington, DC 20231

June 18, 2001

Sir:

This submission responds to the Notice to Comply with Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures dated June 7, 2001 (copy enclosed). The time set for this response is August 7, 2001.

## ***IN THE SPECIFICATION***

Please replace the prior paper copy of the Sequence Listing in the application with the enclosed paper copy of the Sequence Listing.

## **REMARKS**

It was noted in the enclosed Notice to Comply with Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures that the prior submission of the Sequence Listing, submitted on April 13, 2001, failed to comply with the requirements set forth in 37 C.F.R. §1.821 through §1.825. Specifically, it was contended that the use of the term "Artificial" to define the organism for field <213> was incomplete, per 37 C.F.R. §1.823(b) of the New Sequence Rules. Additionally, it was stated that a line length was greater than 72 characters.

In response to this Notice and pursuant to the requirements of 37 C.F.R. §1.821 through §1.825 for Sequence Listings, a substitute computer readable form (diskette) and a substitute paper copy containing the Sequence Listing are submitted concurrently herewith.

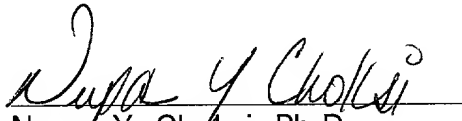
## ***STATEMENT PURSUANT TO 37 C.F.R. § 1.821***

Pursuant to 37 C.F.R. §1.821, applicants herein state that the contents of the attached paper entitled "SEQUENCE LISTING" and of the accompanying identically labeled diskette, specifically the ASCII-encoded file therein labeled "SEQUENC3.txt", are

identical and that the sequence submission contains no new matter.

Consideration of this response forwarding the enclosed diskette and paper copy of the sequence listing are respectfully requested.

Respectfully submitted,



Neepa Y. Choksi, Ph.D.

Reg. No. 47,488

Agent for Applicants

DARBY & DARBY, P.C.  
805 Third Avenue  
New York, N.Y. 10022  
Phone (212) 527-7700



42

SEQUENCE LISTING

<110> Lawrence, Papsidero  
Lyn, Dyster  
Jana, Frustaci

<120> Detection and Treatment of Breast Cancer

<130> 3380/11127-US4

<140> 09/834,794

<141> 2001-04-13

<150> 09/146,580

<151> 1998-09-03

<150> 60/071,899

<151> 1998-01-20

<150> 60/092,155

<151> 1998-07-09

<160> 35

<170> PatentIn version 3.0

<210> 1

<211> 127

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (70)..(70)

<223> Xaa at position 70 is either Arg or Gly

<220>

<221> UNSURE

<222> (91)..(91)

<223> Xaa at position 91 is either Lys or Asn

<400> 1

Met Gln Gln Arg Gly Leu Ala Ile Val Ala Leu Ala Val Cys Ala Ala  
1 5 10 15

Leu His Ala Ser Glu Ala Ile Leu Pro Ile Ala Ser Ser Cys Cys Thr  
20 25 30

Glu	Val	Ser	His	His	Ile	Ser	Arg	Arg	Leu	Leu	Glu	Arg	Val	Asn	Met
		35					40					45			
Cys	Arg	Ile	Gln	Arg	Ala	Asp	Gly	Asp	Cys	Asp	Leu	Ala	Ala	Val	Ile
	50					55					60				
Leu	His	Val	Lys	Arg	Xaa	Arg	Ile	Cys	Val	Ser	Pro	His	Asn	His	Thr
65					70					75					80
Val	Lys	Gln	Trp	Met	Lys	Val	Gln	Ala	Ala	Xaa	Lys	Asn	Gly	Lys	Gly
				85					90					95	
Asn	Val	Cys	His	Arg	Lys	Lys	His	His	Gly	Lys	Arg	Asn	Ser	Asn	Arg
			100					105					110		
Ala	His	Gln	Gly	Lys	His	Glu	Thr	Tyr	Gly	His	Lys	Thr	Pro	Tyr	
		115					120					125			

<210> 2  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> UNSURE  
 <222> (47)..(47)  
 <223> Xaa at position 47 is either Arg or Gly  
 <220>  
 <221> UNSURE  
 <222> (68)..(68)  
 <223> Xaa at position 68 is either Lys or Asn

<400> 2

Leu	Pro	Ile	Ala	Ser	Ser	Cys	Cys	Thr	Glu	Val	Ser	His	His	Ile	Ser
1				5					10					15	
Arg	Arg	Leu	Leu	Glu	Arg	Val	Asn	Met	Cys	Arg	Ile	Gln	Arg	Ala	Asp
		20						25					30		
Gly	Asp	Cys	Asp	Leu	Ala	Ala	Val	Ile	Leu	His	Val	Lys	Arg	Xaa	Arg
		35					40					45			
Ile	Cys	Val	Ser	Pro	His	Asn	His	Thr	Val	Lys	Gln	Trp	Met	Lys	Val
	50					55					60				
Gln	Ala	Ala	Xaa	Lys	Asn	Gly	Lys	Gly	Asn	Val	Cys	His	Arg	Lys	Lys

65		70		75		80									
His	His	Gly	Lys	Arg	Asn	Ser	Asn	Arg	Ala	His	Gln	Gly	Lys	His	Glu
				85					90					95	

Thr Tyr Gly His Lys Thr Pro Tyr  
100

<210> 3  
 <211> 18  
 <212> PRT  
 <213> Homo sapiens

<400> 3

Thr	Glu	Val	Ser	His	His	Ile	Ser	Arg	Arg	Leu	Leu	Glu	Arg	Val	Asn
1				5					10					15	

Met Cys

<210> 4  
 <211> 16  
 <212> PRT  
 <213> Homo sapiens

<400> 4

Lys	Asn	Gly	Lys	Gly	Asn	Val	Cys	His	Arg	Lys	Lys	His	His	Gly	Lys
1				5					10					15	

<210> 5  
 <211> 19  
 <212> PRT  
 <213> Homo sapiens

<400> 5

Asn	Ser	Asn	Arg	Ala	His	Gln	Gly	Lys	His	Glu	Thr	Tyr	Gly	His	Lys
1				5					10					15	

Thr Pro Tyr

<210> 6  
 <211> 3117  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> unsure  
 <222> (1)..(3117)  
 <223> n at any position in the sequence represents a or g or c or t/u

<220>  
 <221> unsure  
 <222> (1)..(3117)  
 <223> y at any position in the sequence represents t/u or c

<220>  
 <221> unsure  
 <222> (1)..(3117)  
 <223> m at any position in the sequence represents a or c

<220>  
 <221> unsure  
 <222> (1)..(3117)  
 <223> k at any position in the sequence represents g or t/u

<220>  
 <221> unsure  
 <222> (1)..(3117)  
 <223> s at any position in the sequence represents g or c

<220>  
 <221> unsure  
 <222> (1)..(3117)  
 <223> w at any position in the sequence represents a or t/u

<220>  
 <221> unsure  
 <222> (1)..(3117)  
 <223> r at any position in the sequence represents g or a

<400> 6

aacatcctca cttgtgttgc tgtcagtgcc tgtanggcag gcaggaatgc agcagagagg	60
actcgccatc gtggccttgg ctgtctgtgc ggcctacat gcctcagaag ccatacttcc	120
cattgcctcc agctgttgca cggaggtttc acatcatatt tccagaaggc tcctggaaag	180
agtgaatatg tgtcgcatcc agagagctga tggggattgt gacttggctg ctgtcatcct	240

tcattgtcaag	cgcngaagaa	tctgtgtcag	cccgcacaac	catactgtta	agcagtggat	300
gaaagtgcaa	gctgccaaana	aaaatggtaa	aggaaatggt	tgccacagga	agaaacacca	360
tggcaagagg	aacagtaaca	gggcacatca	ggggaaacac	gaaacatacg	gccataaaac	420
tccttattag	agaatctaca	gataaatcta	cagagacaat	cccccaagt	gacttggcca	480
tgattgggtg	taagttttatc	atctgaattc	tccttattgt	agacaacaga	acaaaacaaa	540
atattgggtt	ttaaaaaatg	aacaattgtg	ccgtatgcaa	atgtacccaa	taatatactc	600
cactggaaaa	tgaaatgaaa	aaannatact	ggctgggtat	ggtgggtccc	ccctttttatc	660
ccannnnctt	cgggaggcag	aggcaggagg	atcacttgag	accaggantt	ngagacnagc	720
tnggggcaaa	anagcaanga	cntcatttnt	acaaacnaaa	aaaaannttg	gcccggcntg	780
gtagnacttg	cntataatcc	cagcnacatg	ggaggtnag	gtgggaggat	cacttgagtc	840
tgggngagtt	ngaggtnagca	gtgagcagcn	tgggtgacag	aatgnagacc	ntgtctctaa	900
aaataataat	aataatgata	gtgtatatct	tcataataa	ttttaagnag	gagcatatag	960
atataacttn	ctcccaactt	tttaattata	gttttccaaa	cttacagaga	agttaaaaga	1020
atgggtacaat	gaacatctat	atatctttca	ccacaatatt	aatcattggt	aatattgtgc	1080
cacatttgct	ttctctctcc	tctcttggt	ggggtncaa	tataaaatat	tataactttt	1140
aaaatatatc	ttgttttgct	aaccattgga	aaataagttg	caaaaatcat	gacacttcac	1200
ccctagtttc	ttttnggtgt	tataacttga	cataccctaa	aataaagaca	tttttctaca	1260
taatcacctt	atcagtttta	tacctaataa	attaataatt	tcattctaata	tattccatat	1320
tcaaattttc	ccaactatct	agagagcatt	ttatgtagtt	tttttttcac	tccagtaatc	1380
aatcaaggtn	gacatacata	ttgcaaataa	ttgttatctt	tctttaatat	ctttcaatct	1440
aagaaagtcc	ctctgtcttt	tttttttaat	ttttaaaatt	atctttgtga	gggaggggtc	1500
tgctgtgtct	tccaggctgg	agtgcagtg	cacaattttg	atctttggct	actgaagcct	1560
caactttagg	gctcaagcaa	tcctcccacc	tcagcctncc	cgagtatctg	ggatcaagg	1620
gcataccac	cacacctggc	taattttgtt	tattttttgt	agagacagg	tctcactatg	1680
ttgccaggt	tgatctcaaa	ctctggggt	caagcgatcc	tcccacctta	gcctcccaaa	1740



gtactgggat	tataggtgtg	agccacagtg	cctggcctaa	ttattttctt	gtgatcaa	1800
tcagggttaa	tgtttttggt	taagaatttc	ctacgtgaat	tcgtgtactt	atthttgtcat	1860
ttagagttca	taaatattag	ggttttatttt	ctaaatagaa	tagttttaaac	taaatataac	1920
ttcaaaaacgt	ctagttttgag	tagctaccgt	tgttttggatt	gaaattttct	gataactgaaa	1980
agaacaaaaa	gcctgccttt	ctgcccanaa	csnnttgcyt	ccccagtna	gttcttggnng	2040
cagnactagt	taggggnccca	gagttnggcc	ttnngkgtgg	tgattttang	ytctgcctaa	2100
acaaggngcn	wacatytttt	agctcctatt	ccaccyttct	namamgtttt	tgttgtkgtt	2160
tgnttgtttt	tttkgagaca	grrtntnayt	ctgtttgccc	argctggart	tgcagtggca	2220
caatytnnggy	tncattgcaa	cytcngcytc	cssggcggttc	aaktgatyyt	cttgcytcag	2280
cytccccaag	taantgatat	tacaggngcc	cagccaccam	accccgntga	wttttgtatt	2340
tttartarar	amrggggtttt	cccgcnttgg	cngggctggg	ctcnaantcc	ttgamctcna	2400
ktgaaccacc	cgctgtgcc	ycccaaantg	ctggaattac	cancgttgan	ccaccatgcc	2460
gggcycacac	gtttgarttt	ganaccattg	tnccattcct	cttttggcct	ytthttttntc	2520
catagnngct	tcaagataga	tangtaagrg	cccagtagtn	gttcwtarga	agcnmatagr	2580
ranerggar	cantttnatc	aggtgggcag	gtgtccnngg	cytccctgct	ggytnntccc	2640
aagcggtggt	gttgccarga	nktnttggar	gtgataatgg	gananaccag	naggcmctga	2700
gtyncnntag	gttnaaatgc	cacccaaaact	ggcctttggc	ctaatatccy	ycnttgamta	2760
nttarcatth	awttttattwa	tttnccctgac	atttntgcma	ncctttgtwt	ttntatttcc	2820
nctntatara	wgargaaatt	tgaggntytt	araggtaaaa	tganttgenc	nrgtnnacmc	2880
aggaagtggc	nraranaanc	tttttanatn	mgaaaaaatt	aataaaatat	aatatgagag	2940
taacttaaaa	tattaataaaa	ccacaatttt	aaattaatta	accgtgataa	ccaacattaa	3000
taaaagttaa	gataccaaaa	cactgggtgn	taattttttt	aactaacaan	ttgaattatt	3060
ttccatttta	aattaattaa	ccgtgataac	caacattaat	aaaagttaag	ataccgn	3117

<210> 7  
 <211> 381  
 <212> NA

<213> Homo sapiens

<220>

<221> unsure

<222> (208)..(208)

<223> n may represent a or g or c or t/u

<220>

<221> unsure

<222> (273)..(273)

<223> n may represent a or g or c or t/u

<400> 7

atgcagcaga gaggactcgc catcgtggcc ttggctgtct gtgcggccct acatgcctca 60

gaagccatac ttcccattgc ctccagctgt tgcacggagg ttccacatca tatttccaga 120

aggctcctgg aaagagtgaa tatgtgtcgc atccagagag ctgatgggga ttgtgacttg 180

gctgctgtca tccttcatgt caagcgnga agaatctgtg tcagcccga caaccatact 240

gttaagcagt ggatgaaagt gcaagctgcc aanaaaatg gtaaaggaaa tgtttgccac 300

aggaagaaac accatggcaa gaggaacagt aacagggcac atcaggggaa acacgaaaca 360

tacggccata aaactcctta t 381

<210> 8

<211> 104

<212> DNA

<213> Homo sapiens

<400> 8

acacgaattc acgtaggaaa ttcttaacca aaaacattaa acctgaattt gatcacaaga 60

aaataattag gccaggcact gtggctcaca cctataatcc cagt 104

<210> 9

<211> 25

<212> DNA

<213> Homo sapiens

<400> 9

gaattcacgt aggaaattct taacc 25

<210> 10  
<211> 22  
<212> DNA  
<213> Homo sapiens

<400> 10  
actgggatta taggtgtgag cc

22

<210> 11  
<211> 311  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (101)..(101)  
<223> n may be a or g or c or t/u

<220>  
<221> unsure  
<222> (162)..(162)  
<223> n may be a or g or c or t/u

<400> 11  
ggagagagcc gtatgtttcg tgtttcccct gatgtgccct gttactgttc ctcttgccat 60  
ggtgtttcct cctgtggcaa acatttcctt taccattttt nttggcagct tgcactttca 120  
tccactgctt aacagtatgg ttgtgcgggc tgacacagat tnttctgcgc ttgacatgaa 180  
ggatgacagc agccaagtca caatccccat cagctctctg gatgcgacac atattcactc 240  
tttccaggag ccttctggaa atatgatgtg aaacctccgt gcaacagctg gaggcaatgg 300  
gaagtatggc t 311

<210> 12  
<211> 20  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Sequencing primer T7

<400> 12  
taatacgact cactataggg

20

<210> 13  
<211> 18  
<212> DNA  
<213> Artificial sequence

<220>  
<223> pCR3.1 Reverse Primer

<400> 13  
tagaaggcac agtcgagg

18

<210> 14  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Gene specific primer (24R)

<400> 14  
actgggatta taggtgtgag cc

22

<210> 15  
<211> 24  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Gene specific primer (24R2)

<400> 15  
caaattcagg tttaatgttt ttgg

24

<210> 16  
<211> 21  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Gene specific primer (F4 )

<400> 16  
ctcaaacgtg tgagcccggc a

21

<210> 17

<211> 25  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Gene specific primer (F3)

<400> 17  
gctactcaaa ctagacgttt tgaag

25

<210> 18  
<211> 24  
<212> DNA  
<213> Artificial sequence

<220>  
<223> primers F8

<400> 18  
ccgtatgttt cgtgtttccc ctga

24

<210> 19  
<211> 24  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Primer R5

<400> 19  
agccatactt cccattgcct ccag

24

<210> 20  
<211> 150  
<212> PRT  
<213> Homo sapiens

<400> 20

Met Asn Leu Trp Leu Leu Ala Cys Leu Val Ala Gly Phe Leu Gly Ala  
1 5 10 15

Trp Ala Pro Ala Val His Thr Gln Gly Val Phe Glu Asp Cys Cys Leu  
20 25 30

Ala Tyr His Tyr Pro Ile Gly Trp Ala Val Leu Arg Arg Ala Trp Thr  
35 40 45

Tyr Arg Ile Gln Glu Val Ser Gly Ser Cys Asn Leu Pro Ala Ala Ile  
50 55 60

Phe Tyr Leu Pro Lys Arg His Arg Lys Val Cys Gly Asn Pro Lys Ser  
65 70 75 80

Arg Glu Val Gln Arg Ala Met Lys Leu Leu Asp Ala Arg Asn Lys Val  
85 90 95

Phe Ala Lys Leu His His Asn Met Gln Thr Phe Gln Ala Gly Pro His  
100 105 110

Ala Val Lys Lys Leu Ser Ser Gly Asn Ser Lys Leu Ser Ser Ser Lys  
115 120 125

Phe Ser Asn Pro Ile Ser Ser Ser Lys Arg Asn Val Ser Leu Leu Ile  
130 135 140

Ser Ala Asn Ser Gly Leu  
145 150

<210> 21

<211> 95

<212> PRT

<213> Homo sapiens

<400> 21

Met Cys Cys Thr Lys Ser Leu Leu Leu Ala Ala Leu Met Ser Val Leu  
5 10 15

Leu Leu His Leu Cys Gly Glu Ser Glu Ala Ser Asn Phe Asp Cys Cys  
20 25 30

Leu Gly Tyr Thr Asp Arg Ile Leu His Pro Lys Phe Ile Val Gly Phe  
35 40 45

Thr Arg Gln Leu Ala Asn Glu Gly Cys Asp Ile Asn Ala Ile Ile Phe  
50 55 60

His Thr Lys Lys Lys Leu Ser Val Cys Ala Asn Pro Lys Gln Thr Trp  
65 70 75 80

Val Lys Tyr Ile Val Arg Leu Leu Ser Lys Lys Val Lys Asn Met  
85 90 95

<210> 22

<211> 94

<212> PRT

<213> Homo sapiens

<400> 22

Met Ala Pro Leu Lys Met Leu Ala Leu Val Thr Leu Leu Leu Gly Ala  
1 5 10 15  
Ser Leu Gln His Ile His Ala Ala Arg Gly Thr Asn Val Gly Arg Glu  
20 25 30  
Cys Cys Leu Glu Tyr Phe Lys Gly Ala Ile Pro Leu Arg Lys Leu Lys  
35 40 45  
Thr Trp Tyr Gln Thr Ser Glu Asp Cys Ser Arg Asp Ala Ile Val Phe  
50 55 60  
Val Thr Val Gln Gly Arg Ala Ile Cys Ser Asp Pro Asn Asn Gln Arg  
65 70 75 80  
Val Lys Asn Ala Val Lys Tyr Leu Gln Ser Leu Glu Arg Ser  
85 90

<210> 23

<211> 96

<212> PRT

<213> Homo sapiens

<400> 23

Met Gln Ile Ile Thr Thr Ala Leu Val Cys Leu Leu Leu Ala Gly Met  
1 5 10 15  
Trp Pro Glu Asp Val Asp Ser Lys Ser Met Gln Val Pro Phe Ser Arg  
20 25 30  
Cys Cys Phe Ser Phe Ala Glu Gln Glu Ile Pro Leu Arg Ala Ile Leu  
35 40 45  
Cys Tyr Arg Asn Thr Ser Ser Ile Cys Ser Asn Glu Gly Leu Ile Phe  
50 55 60  
Lys Leu Lys Arg Gly Lys Glu Ala Cys Ala Leu Asp Thr Val Gly Trp  
65 70 75 80  
Val Gln Arg His Arg Lys Met Leu Arg His Cys Pro Ser Lys Arg Lys  
85 90 95

<210> 24

<211> 77

<212> PRT

<213> Homo sapiens

<400> 24

Ala Gln Pro Asp Ser Val Ser Ile Pro Ile Thr Cys Cys Phe Asn Val  
1 5 10 15  
Ile Asn Arg Lys Ile Pro Ile Gln Arg Leu Glu Ser Tyr Thr Arg Ile  
20 25 30  
Thr Asn Ile Gln Cys Pro Lys Glu Ala Val Ile Phe Lys Thr Lys Arg  
35 40 45  
Gly Lys Glu Val Cys Ala Asp Pro Lys Glu Arg Trp Val Arg Asp Ser  
50 55 60  
Met Lys His Leu Asp Gln Ile Phe Gln Asn Leu Lys Pro  
65 70 75

<210> 25

<211> 98

<212> PRT

<213> Homo sapiens

<400> 25

Met Lys Val Ser Ala Val Leu Leu Cys Leu Leu Leu Met Thr Ala Ala  
1 5 10 15  
Phe Asn Pro Gln Gly Leu Ala Gln Pro Asp Ala Leu Asn Val Pro Ser  
20 25 30  
Thr Cys Cys Phe Thr Phe Ser Ser Lys Lys Ile Ser Leu Gln Arg Leu  
35 40 45  
Lys Ser Tyr Val Ile Thr Thr Ser Arg Cys Pro Gln Lys Ala Val Ile  
50 55 60  
Phe Arg Thr Lys Leu Gly Lys Glu Ile Cys Ala Asp Pro Lys Glu Lys  
65 70 75 80  
Trp Val Gln Asn Tyr Met Lys His Leu Gly Arg Lys Ala His Thr Leu  
85 90 95

Lys Thr

<210> 26

<211> 97

<212> PRT

<213> Homo sapiens



<400> 26

Met Lys Val Ser Ala Ala Leu Leu Trp Leu Leu Leu Ile Ala Ala Ala  
1 5 10 15  
Phe Ser Pro Gln Gly Leu Ala Gly Pro Ala Ser Val Pro Thr Thr Cys  
20 25 30  
Cys Phe Asn Leu Ala Asn Arg Lys Ile Pro Leu Gln Arg Leu Glu Ser  
35 40 45  
Tyr Arg Arg Ile Thr Ser Gly Lys Cys Pro Gln Lys Ala Val Ile Phe  
50 55 60  
Lys Thr Lys Leu Ala Lys Asp Ile Cys Ala Asp Pro Lys Lys Lys Trp  
65 70 75 80  
Val Gln Asp Ser Met Lys Tyr Leu Asp Gln Lys Ser Pro Thr Pro Lys  
85 90 95

Pro

<210> 27

<211> 99

<212> PRT

<213> Homo sapiens

<400> 27

Met Lys Ala Ser Ala Ala Leu Leu Cys Leu Leu Leu Thr Ala Ala Ala  
1 5 10 15  
Phe Ser Pro Gln Gly Leu Ala Gln Pro Val Gly Ile Asn Thr Ser Thr  
20 25 30  
Thr Cys Cys Tyr Arg Phe Ile Asn Lys Lys Ile Pro Lys Gln Arg Leu  
35 40 45  
Glu Ser Tyr Arg Arg Thr Thr Ser Ser His Cys Pro Arg Glu Ala Val  
50 55 60  
Ile Phe Lys Thr Lys Leu Asp Lys Glu Asp Cys Ala Asp Pro Thr Gln  
65 70 75 80  
Lys Trp Val Gln Asp Pro Met Lys His Leu Asp Lys Lys Thr Gln Thr  
85 90 95  
Pro Lys Leu

<210> 28  
 <211> 99  
 <212> PRT  
 <213> Homo sapiens

<400> 28

Met	Lys	Val	Ser	Ala	Ala	Leu	Leu	Cys	Leu	Leu	Leu	Thr	Ala	Ala	Ala			
1				5					10					15				
Phe	Ile	Pro	Gln	Gly	Leu	Ala	Gln	Pro	Asp	Ala	Ile	Asn	Ala	Pro	Val			
			20				25					30						
Thr	Cys	Cys	Tyr	Asn	Phe	Thr	Asn	Arg	Lys	Ile	Ser	Val	Gln	Arg	Leu			
	35						40					45						
Ala	Ser	Tyr	Arg	Arg	Ile	Thr	Ser	Ser	Lys	Cys	Pro	Lys	Glu	Ala	Val			
	50					55					60							
Ile	Phe	Lys	Thr	Ile	Val	Ala	Lys	Glu	Asp	Cys	Ala	Asp	Pro	Lys	Gln			
65					70				75						80			
Lys	Trp	Val	Gln	Asp	Ser	Met	Asp	His	Leu	Asp	Lys	Gln	Thr	Gln	Thr			
				85					90					95				
Pro	Lys	Thr																

<210> 29  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 29

Met	Lys	Val	Ser	Ala	Ala	Arg	Leu	Ala	Val	Ile	Leu	Ile	Ala	Thr	Ala			
1				5					10					15				
Leu	Cys	Ala	Pro	Ala	Ser	Ala	Ser	Pro	Tyr	Ser	Ser	Asp	Thr	Thr	Pro			
			20					25					30					
Cys	Cys	Phe	Ala	Tyr	Ile	Ala	Arg	Pro	Leu	Pro	Arg	Ala	His	Ile	Lys			
	35						40					45						
Glu	Tyr	Phe	Tyr	Thr	Ser	Gly	Lys	Cys	Ser	Asn	Pro	Ala	Val	Val	Phe			
	50					55					60							
Val	Thr	Arg	Lys	Asn	Arg	Gln	Val	Cys	Ala	Asn	Pro	Glu	Lys	Lys	Trp			
65					70					75					80			

Val Arg Glu Tyr Ile Asn Ser Leu Glu Met Ser  
85 90

<210> 30  
<211> 93  
<212> PRT  
<213> Homo sapiens  
  
<400> 30

Met Lys Ile Ser Val Ala Ala Ile Pro Phe Phe Leu Leu Ile Thr Ile  
1 5 10 15

Ala Leu Gly Thr Lys Thr Glu Ser Ser Ser Arg Gly Pro Tyr His Pro  
20 25 30

Ser Glu Cys Cys Phe Thr Tyr Thr Thr Tyr Lys Ile Pro Arg Gln Arg  
35 40 45

Ile Met Asp Tyr Tyr Glu Thr Asn Ser Gln Cys Ser Lys Pro Gly Ile  
50 55 60

Val Phe Ile Thr Lys Arg Gly His Ser Val Cys Thr Asn Pro Ser Asp  
65 70 75 80

Lys Trp Val Gln Asp Tyr Ile Lys Asp Met Lys Glu Asn  
85 90

<210> 31  
<211> 92  
<212> PRT  
<213> Homo sapiens  
  
<400> 31

Met Lys Leu Cys Val Thr Val Leu Ser Leu Leu Met Leu Val Ala Ala  
1 5 10 15

Phe Cys Ser Pro Ala Leu Ser Ala Pro Met Gly Ser Asp Pro Pro Thr  
20 25 30

Ala Cys Cys Phe Ser Tyr Thr Ala Arg Lys Leu Pro Arg Asn Phe Val  
35 40 45

Val Asp Tyr Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala Val Val  
50 55 60

Phe Gln Thr Lys Arg Ser Lys Gln Val Cys Ala Asp Pro Ser Glu Ser  
65 70 75 80

Trp Val Gln Glu Tyr Val Tyr Asp Leu Glu Leu Asn  
85 90

<210> 32  
<211> 93  
<212> PRT  
<213> Homo sapiens  
  
<400> 32

Met Gln Val Ser Thr Ala Ala Leu Ala Val Leu Leu Cys Thr Met Ala  
1 5 10 15

Leu Cys Asn Gln Val Leu Ser Ala Pro Leu Ala Ala Asp Thr Pro Thr  
20 25 30

Ala Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile Pro Gln Asn Phe Ile  
35 40 45

Ala Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser Lys Pro Ser Val Ile  
50 55 60

Phe Leu Thr Lys Arg Gly Arg Gln Val Cys Ala Asp Pro Ser Glu Glu  
65 70 75 80

Trp Val Gln Lys Tyr Val Ser Asp Leu Glu Leu Ser Ala  
85 90

<210> 33  
<211> 92  
<212> PRT  
<213> Homo sapiens  
  
<400> 33

Met Gln Val Ser Thr Ala Ala Leu Ala Val Leu Leu Cys Thr Met Ala  
1 5 10 15

Leu Cys Asn Gln Phe Ser Ala Ser Leu Ala Ala Asp Thr Pro Thr Ala  
20 25 30

Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile Pro Gln Asn Phe Ile Ala  
35 40 45

Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser Lys Pro Gly Val Ile Phe  
50 55 60

Leu Thr Lys Arg Ser Arg Gln Val Cys Ala Asp Pro Ser Glu Glu Trp  
65 70 75 80

. Val Gln Lys Tyr Val Ser Asp Leu Glu Leu Ser Ala  
85 90

<210> 34  
<211> 89  
<212> PRT  
<213> Homo sapiens  
<400> 34

Met Lys Gly Leu Ala Ala Ala Leu Leu Val Leu Val Cys Thr Met Ala  
1 5 10 15

Leu Cys Ser Cys Ala Gln Val Gly Thr Asn Lys Glu Leu Cys Cys Leu  
20 25 30

Val Tyr Thr Ser Trp Gln Ile Pro Gln Lys Phe Ile Val Asp Tyr Ser  
35 40 45

Glu Thr Ser Pro Gln Cys Pro Lys Pro Gly Val Ile Leu Leu Thr Lys  
50 55 60

Arg Gly Arg Gln Asp Cys Ala Asp Pro Asn Lys Lys Trp Val Gln Lys  
65 70 75 80

Tyr Ile Ser Asp Leu Lys Leu Asn Ala  
85

<210> 35  
<211> 104  
<212> DNA  
<213> Homo sapiens

<400> 35  
acacgaattc acgtaggaaa ttcttaacca aaaacattaa acctgaattt gatcacaaga 60  
aaataattag gccaggcact gtggctcaca cctataatcc cagt 104